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Journal of the Amateur Photographic Society of Madras.

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EDITORIAL NOTES.

IT will be seen from the proceedings of a Committee Meeting which was held on Monday evening 11th September instant, that a new Secretary and Treasurer has been elected and a new Editor appointed for the Journal.

The elected member is not new to the office of Secretary and Treasurer, for he held that office for the first two years (1888 and 1889) of the Society's existence, again for the two years 1892 and 1893 and once more for some months in 1897: he is, however quite new to the office of Editor and must therefore ask for a little patience to be shown by members in the matter of the Journal.

WHILE this is being written (on the 15th September) the Journal for August has not as yet made its appearance and nothing much can therefore be done towards getting together the number for September, which will be the first number for which we are responsible.

THE Society's affairs have for some little time past been going along in a somewhat unsatisfactory manner, but it must not therefore be assumed that the mere election of a new Secretary and Treasurer, and the substitution of one Editor for another will at once start the Society on a flourishing career: it will still remain with the members themselves to decide whether the Society is to be a success or not; *if* the resident members continue to keep away from the monthly meetings and *if* the up-country members refrain from sending in specimens of their work (good, bad or indifferent) and refrain also from asking for information, the Society might as well be closed, as it is impossible to make bricks without straw, and a Society's Journal, full of nothing but "Extracts" taken from more flourishing publications and containing no reference whatever to the members' work or local details, is not worth much to anyone and to our mind, is merely a waste of money.

WE therefore trust that some of the more experienced members will come forward to assist in the filling of some part of the Journal with some new and original articles on the present state of photographic processes.

We also ask for the loan of good typical negatives, from which our illustrations can be reproduced: we have already been promised a few from certain members and trust to receive a great many from which a selection can be at once sent home; only one set of pictures was left with us by the former officials and that will be used for this number.

WE hope to get this issued very early in October and the October number as near the proper date (15th) as possible, but we can hardly expect to get much original matter in such a hurry as this. Our efforts will be mainly directed to getting a really good number ready for November 15th, and thereafter to issue the Journal on the proper date each month; if therefore members see little or no improvement in this and the following number, we would ask of them to exercise a little patience for the above-mentioned reasons.

IT would assist us very much in getting practical information together, if members would kindly send to the Secretary a list of subjects upon which they would like some information: we know that some members have trouble in developing negatives to proper density, others have trouble with P. O. Paper or bromide printing, others would like to start enlarging but fancy it is too formidable an undertaking: now, if such members would only advise the Secretary what particulars points they would like details of, he will do his best to provide the Journal with an article at an early date, complete with drawings where necessary, if they can be done without excessive cost.

POST-CARDS (reply) have been sent to every up-country member with details of subscriptions due up to the 31st December 1899, and the Treasurer hopes that all members will kindly remit the amount without delay.

THE Journal of the Photographic Society of India for September 1899 contains a report on the photographs shown at the recent Fine Arts Exhibition at Simla. Mr. Dunsterville seems to have been the only one from this part of India who sent in any pictures and the report remarks "Of those exhibitors who have just "missed an award Mr. F. Dunsterville is a good "first. The one representing a girl in Grecian "costume is excellent and would have gone far "to secure the prize had it not come more pro-"perly under the *genre* than the portrait class. "The lighting of the subject is practically per-"fect and the arrangement of the drapery could "hardly be better."

We note these remarks as an encouragement to those of our members who go in for portraiture: the picture referred to was taken in a front verandah and the only means of varying the lighting was by moving the venetianed windows more or less open, and also by opening the venetian shutters more or less—it may also be stated that there were 13 previous attempts before the fourteenth was considered satisfactory enough to stop at!

ANOTHER very noticeable feature in the Calcutta Society's Journal is the great interest taken in photographic matters by the Society's members, as evinced by nearly two pages of interesting matter contributed by ordinary members and the Editor may well congratulate himself upon such results: we wish our members would favour us in a similar way!

THE "Bulletin" of the Association Belge recommends the use of Lumiere's Pyro-Acetone developer for Lantern Slides, but the formula seems a very expensive one, containing as it does 15 grains of Pyro for each lantern slide or only 29 slides to an ounce of Pyro! It is some months since we last made any lantern slides, but we fancy that 1½ grains Pyro were sufficient for ample density.

IN his "Home Letter" which appeared in the August number of our Journal, Mr. Percy Lund made a flattering reference to the new film brought on the market by Messrs. Wellington and Ward, and now another Company comes to the front with another new film "The Secco Films"; they are said to be cheap, very light (36 films 7½″ × 5″ only weighing 1 ounce), very durable, very thin—so that reversed negatives are easily provided,—very sensitive, free from

halation and not explosive or combustible: this is a good catalogue of useful qualities; may they prove correct!

A REFERENCE was made some months ago in this Journal to the new platinum paper "Platona" introduced by the Britannia Works Co., Ilford: we asked them to send us out a few packets, but they replied that they were not sufficiently assured as yet of its keeping qualities to send supplies to India, but they promised to do so as soon as possible, so we may look forward to trying some before long: let us hope it will not arrive in the middle of the N. E. monsoon!

WE have observed that, on the last page of the journal, the subject for the last half-yearly competition "Architecture" was still announced, although the closing date was the 31st May last: we presume that no member sent in any pictures for competition so we propose to leave the subject for the next half-yearly competition, the latest date for sending in being the 31st January 1900, when we hope to receive a very large assortment of prints.

OUR ILLUSTRATION.

THE photographer was taking pictures in a Tiyan House on the Malabar Coast, when he saw the subject of this illustration (one of the domestics of the house) drawing water from a well in the compound and watching the picture making at the same time.

The subject being a typical one was then photographed, the plate being a Wratten's Instantaneous, the exposure being 2 seconds with stop No. 8 or *f* 11, the original negative was a stereoscopic one.

SUBSCRIPTIONS.

THE Secretary and Treasurer must apologize to those members who have been asked to pay larger sums than were properly due from them: he desires to explain that he is in no way responsible for the inaccuracies in such cases, as the notices were sent out by him in strict accordance with the list prepared and handed to him, with the rest of the books, by the late Secretary: those members who have not as yet replied to the notices (which have been sent to every up-country member to the address entered on the "List of Members") are desired to be kind enough to do so at a very early date to enable the present Secretary to get things in order.

It is suggested for the consideration of members up-country that, in order to avoid all trouble and delay in the collection of subscriptions, the number of our Journal for January every year be sent to all members by *Value-payable post*, the "Value" recoverable by the Post Office being the amount of subscription due for that current year, in the first instance the year 1900.

Will members kindly favour the Secretary with their opinion within the next month? we would propose to act with the majority.

OUR HOME LETTER.

August 1899.

Changes in photographic practice due to improved manufactures are now impending, changes which, I venture to predict, will influence the progress of the sun-art to an extraordinary degree, second only in importance to the revolution brought about early in the "eighties" by the introduction into commerce of the dry plate. First and foremost we shall soon find glass as a support for films almost entirely replaced by other and lighter substances. It is true that celluloid has been employed for this purpose for some time, but its inflammability and what is still more important, its cost, has prevented its taking the place of glass. But we have now two excellent films on the market in which neither glass nor celluloid is used. In the case of Messrs. Wellington and Ward's new film, thin cardboard has been adopted as the temporary support of the film during exposure and development, from which afterwards the gelatine layer is separated entirely. In the other new product, known as the "Secco Film," paper is the supporting medium, and the film is strengthened by a thin gelatine film applied after the operations of developing and fixing have been performed. Both films have the same advantages of lightness, thinness, transparency, pliability, non-inflammability, etc., and their ultimate popularity would seem to be largely a question of price. This discarding of glass will also bring numerous other benefits in its train. There will be a great saving in carriage, as a gross of half-plate films would probably not cost more than fourpence-halfpenny by parcels post in England. Ten thousand negatives would not, as hitherto, necessitate a storeroom of considerable dimensions, but might be easily put away in a cupboard or a safe of moderate size. There will also be an end of vexatious breakages in the post and elsewhere. Last, but not least,

the evils of halation, attendant upon the use of glass, will disappear, and the troublesome practice of backing cease to be necessary. So much for the negative *per se*. In its relation to printing processes the thin gelatine film is more than likely to effect material changes. Since printing can be done from either side equally well, the tedious operation of reversal becomes a thing of the past, and the greatest tax upon the simplest printing process—carbon—is thereby removed. I fully believe, consequently, that carbon will become the regular printing process of the future, and that the employment of albumen and gelatine papers will dwindle to insignificant proportions. The issues at stake are great, innumerable details will likewise be effected, as, for example, further reductions in the weight, the sundry changes in the form of apparatus &c. The question also arises, can glass in lantern slides be dispensed with, and can some effective substitute be put in place of ground-glass focussing screens? Putting one thing with another—the progress of invention and the development of refined taste, I cannot but think that before many months have gone by, the art and practice of photography will have undergone numerous vital changes calculated to vastly improve and extend its usefulness.

The "poor man's lens" is the term applied by an American journal to the combination or casket lens, which is supplied in the form of a flange or brass mount, with iris diaphragm and removable ring for wide-angle adjustment, and several single lenses, that can be screwed at either or both ends, in order to produce different foci according to the requirements of the photographer. The name is in my opinion only fairly appropriate, for the combination lens is undoubtedly the most convenient form for rich and poor alike, apart from considerations of expense. I remember, in my early photographic days, being counselled to purchase a rapid rectilinear lens, because the front combination could be screwed out, leaving a single lens of approximately double the focal length. I took the advice, but unfortunately never realized the specified convenience for my camera stopped short about two inches from the requisite extension. When the combination lens began to be a regular line in the market, I secured one, and since then, in the words of the advertisement, "have used no other." The lenses, employed singly, give one almost every angle required for landscape, the same in various combinations yield rectilinears of various focal lengths, and by removing the ring one may obtain a series of wide-angle combinations. I have written in praise of this type of lens in my previous letters on more than one occasion, and now in leaving the subject for the present, I can only say that equipped with a lens of this type, one may go out prepared for anything.

New light has been thrown on the constitution of the latent image by the experiments of Dr. V. Schuman. It appears that if a glass plate is coated with a very thin film of gelatino-bromide of silver, this covering will resist the action of strong acids. Immersion of a plate, either before development or after fixing, in strong nitric acid neither destroys its capacity for development in the former case, nor produces the entire destruction of the image in the latter. From these observations it is not unreasonable to conclude that the latent image does not consist entirely of metallic silver, and that the image after fixing is only partially composed of metallic silver.

According to a French photographer, platinum prints can be effectively intensified with gallic acid. The procedure is as follows:—50 cc. of a cold saturated solution of gallic acid is diluted with an equal quantity of water, to this 10 drops of acetic acid, and finally 2 grammes of silver nitrate solution (1 : 10) are added. The wet platinum prints are put immediately into this solution, and are left therein until the necessary intensification has been obtained. The developer becomes gradually muddy, but this does not matter, as by that time the intensification will have already gone far enough. As soon as the desired strength has been arrived at, the prints are fixed in two or three changes of water slightly acidulated with acetic acid. The intensified print is of a brown tint, but it can be toned black again in the following platinum toning bath :—

Potassium chloroplatinite	1 gramme.
Phosphoric acid	15 cc.
Water	600 „

Viewed by transmitted light a picture toned in this bath is clear black. It is no use treating very much underexposed prints in this way, only weak platinum prints, full of detail, give a good result. With old prints the intensification proceeds rather slowly, therefore it is advisable only to use the process with freshly made pictures.

The following formula, for the new Kachin developer wherein a smaller quantity of sodium sulphite than usual is employed has been found, according to *Photography*, to work very well :—

Kachin	120 grains.
Sodium sulphite	480 „
Citric acid	20 „
Water	10 ounces.

PERCY LUND.

AN AMATEUR'S CHEMICAL CUPBOARD—1899.

A few days ago I was looking into the Almirah in which my stock of Chemicals of sorts is kept, as I wanted to find a particular bottle, and it at once struck me what a terrible collection I had got together in my twenty years' of photography in India.

When I first arrived here in 1878 I brought some of Wratten's plates out with me, but spoilt a good many of them by over-exposure, for after several years' experience at home with wet-plates and collodion dry-plates, it was almost impossible to believe that the new gelatine plate was so much quicker than the old collodion ones.

For some years I returned to the use of wet-plates in India and what an awful job it used to be to carry about all the paraphernalia that was necessary: firstly the dark tent fitted up with sink and water tank, then boxes of clean glass plates (*chemically*, clean they had to be), the silver bath that often went wrong at the most inconvenient moments when hundreds of miles from home, collodion whose fumes in the closed-up dark tent almost choked one and made one's eyes water furiously, the iron developer, the bottle of cyanide of potassium for fixing (2 drams of which solution was a deadly dose for a full-grown man and whose fumes caused terrible headaches), grooved plate-boxes for the resulting damp negatives (if successful enough to get any), buckets of water for negative washing, and measures, cloths and all the rest of the articles such as camera, darkslides, tripod, &c., which form the whole of our apparatus nowadays.

I put on one side all the bottles absolutely necessary for the present style of photography (that is, gelatine plates for negatives, with bromide, platinum and P. O. papers for prints) and the result was startling; instead of 3 shelves full of bottles of all sorts and sizes I found that less than a space of a square foot was sufficient, and I then thought this might be used as a text for an article for our Journal.

I therefore propose to give a list of the solutions absolutely necessary for producing negatives and finished prints therefrom: before giving the list I may say that for all makes of plates in this country I recommend the Pyro-Soda developer: personally I prefer Pyro-Ammonia when I am quite sure that the plates are *perfectly fresh*, a quality we do not always meet with in India, but when plates are a trifle stale Pyro-Soda will give a cleaner negative than Ammonia.

I find that 8 medium size bottles and 2 ordinary quart bottles contain all that anyone needs for photography, leaving on one side the question of intensifying and reducing, neither of which are very successful as a rule: here is the list.

Plates.	No. 1	Pyro solution ...	10 ounce bottle.
	,, 2	Soda ,, ...	10 ,, ,,
	,, 3	Bromide ,, ...	10 ,, ,,
Bromide paper.	,, 4	Ortol ,, ...	10 ,, ,,
	,, 5	Soda ,, ...	10 ,, ,,
Platinum paper.	,, 6	Potass: Oxalate solution	a wine quart bottle.
	,, 7	Hydrochloric Acid	8 ounce bottle.
P. O. papers.	,, 8	Soda Phosphate solution	6 ounce bot.
	,, 9	Chloride of Gold ,,	2 ,, ,,
Fixer for all	,, 10	Hyposulphite of Soda solution	a wine quart bottle.

THREE BOTTLES OF DEVELOPER FOR PLATES.

No. 1.

Pyrogallic Acid	1 ounce.
Sulphite of Soda	4 ounces.
Sulphuric Acid	15 minims.
Distilled Water to	9¼ ounces.

No. 2.

Carbonate of Soda re-crystallized...	2 ounces.
Sulphite of Soda	2 ,,
Distilled Water to	10 ,,

No. 3.

Bromide of Potassium	1 ounce.
Distilled Water to	10 ounces.

To make up No. 1, make the distilled water fairly hot, dissolve the Sulphite of Soda, let it cool, add the Sulphuric Acid carefully, stir it well up and pour on to the Pyro which will at once dissolve, filter *only* if necessary, and keep well corked. A bottle of the Platinotype Co.'s "Sulpho-Pyrogallol" will save the trouble of making up this solution and can be relied upon to keep for years. A good way to use No. 1 is to keep a one ounce bottle always ready for immediate use (one ounce of solution is enough for some 16 half or 24 quarter plates) and keep the stock 10 ounce bottle sealed with wax.

To make up No. 2, merely dissolve the sulphite first, then the Carbonate and fill up to 10 ounces, keep corked to prevent evaporation.

To make up No. 3, dissolve the bromide and keep corked.

It is impossible to give quantities for all the different makes of plates, so I only give those which are found in most establishments in India, the other formulas can be dissected and Nos. 1, 2 and 3 used accordingly: for medium density on the following plates take the specified quantities of Nos. 1, 2 and 3 for *each ounce* of developer required, say 2 ounces for a quarter, 3 ounces for a half and 4 ounces for a whole plate.

Solutions	Wratten's	Ilford	Cadett	Edwards
No. 1	10 minims	25 minims	30 minims	25 minims
,, 2	90 ,,	110 ,,	150 ,,	120 ,,
,, 3	3 ,,	10 ,,	5 ,,	10 ,,

These are the quantities I find quite sufficient to make good, clear negatives on properly-exposed plates, but as a rule the whole of No. 2 should not be added at first, half is enough to begin with, the rest should be added as required to bring up detail and density.

TWO BOTTLES OF DEVELOPER FOR BROMIDE PAPER.

No. 4.

Ortol...	150 grains.
Metabisulphite of Potash ...	75 ,,
Distilled Water to	10 ounces.

No. 5.

Carbonate of Soda re-crystallized ...	960 grains.
Sulphite of Soda	480 ,,
Bromide of Potassium	80 ,,
Distilled Water to	10 ounces.

For correctly-exposed paper, take half an ounce of each of No. 4 and No. 5 and make up to 4 ounces with clean cold water: the 4 ounces of mixed solution

will develop a dozen whole-plate prints one after the other, but it should not be kept for use on another day.

TWO BOTTLES FOR PLATINOTYPE PAPER.

No. 6.

Potassium Oxalate neutral	...	8 ounces.
Distilled Water to ...	...	24 „

No. 7.

Hydrochloric Acid pure ...	...	8 ounces.

No. 6 is used as developer diluted with an equal quantity of water, the Hydrochloric Acid is used as fixer, taking 1 dram to 7½ ounces of water.

TWO BOTTLES FOR TONING BATH FOR P. O. PAPER.

No. 8.

Phosphate of Soda ...	...	1 ounce.
Distilled Water to ...	...	5¼ ounces

No. 9.

Chloride of Gold ...	...	15 grains.
Distilled Water to ...	...	2 ounces.

For use take 2 drams of No. 8 and add to it 1 dram of No. 9, filling up to 8 ounces with clean, cold water: this should be used within an hour of mixing, it gives brown or purple or black tones: it must *not* be used a second time.

UNIVERSAL FIXING SOLUTION.

No. 10.

Hyposulphite of Soda 13 ounces.
Clean Water to fill a quart wine or whiskey bottle.

Shake until dissolved.

For plates, take one part of No. 10 to 2 parts of cold water. For papers (bromide or P. O. P.) one part of No. 10 to 4 parts of cold water. Fix plates for 5 minutes after the backs seem clear, fix papers for 10 minutes turning them over and over two or three times: a *part* may be an ounce, a wine glass or a soda-water tumbler full.

* * * * *

The only other remark I have to make is with reference to the No. 4 "Ortol" solution: I may repeat (see page 100 of the Journal for August 1898) that the writer has found that Ortol in solution keeps indefinitely, but that the powder rapidly deteriorates: I would therefore recommend that the whole of an ounce of Ortol be at once dissolved in 29 ounces of distilled water together with half an ounce of Metabisulphite of Potash, and that the 29 ounces be divided amongst 3 ten ounce bottles, sealing up two with wax and keeping one well corked "as stock solution No. 4" for use.

F. D.

PROCEEDINGS OF THE SOCIETY.

Monthly Meeting on 1st September 1899, at the Museum Rooms.

A meeting was called for this date at 6 p.m. as usual, the only thing noted for exhibition being some of Mr. Dunsterville's pictures recently taken at Simla.

By a little after 6 p.m. 4 members and a visitor had arrived, but it was decided to wait a little longer to see if any more would turn up: at 6·30 p.m. the meeting was to have begun, but it was then discovered that two of the 4 members had disappeared, so the others followed their example!

It was a pity there was no meeting for there were on show, in addition to the Simla views, several specimen prints made in England by a leading amateur of results from different classes of negatives, over-exposed, under-exposed, and properly exposed, and of each of the three kinds over-developed, under-developed and correctly developed, besides other things.

NEXT MEETING.

The usual monthly meeting will be called for 6 p.m. Friday 6th October proximo: there will be on show one of Thornton-Pickard's latest stereoscopic shutters, with adjustable panels for lenses, speed indicator and time exposure valve, and possibly other things, if members will kindly attend and each bring something of interest.

No subjects for monthly competition have been fixed and members are requested to come prepared to propose suitable subjects: up-country members might favour the Secretary with suggestions by post.

Committee Meeting, Monday, 11th Sept., 1899.

PRESENT:—E. W. STONEY, *President,* in the chair: A. CHATTERTON, F. DUNSTERVILLE, A. E. LAWSON, C. E. PHIPPS, A. PILKINGTON, AND S. JACKSON, *Hon. Secretary and Treasurer.*

The President read a letter from Mr. Dunsterville with reference to the proposal made at the ordinary meeting in May last that he should once more take up the Secretaryship: Mr. Dunsterville agreed to take up the Secretaryship provided that the management of the Journal was also placed in his hands. The business of the meeting was to elect a Secretary and Treasurer in place of Mr. S. Jackson who had resigned some months ago and also to decide what should be done in order to induce members to take more interest in the working of the Society.

A considerable amount of discussion took place: it was shown that the balance of cash was about Rs. 650, while some Rs. 1,000 or so would be collectable from the members for arrears and for subscriptions for the current year, as owing to the temporary

change of Treasurers no attempts appeared to have been made towards the collection of even resident members' dues.

Several suggestions were made for the improvement of the Society, but in the end it was decided to elect a new Secretary and Treasurer, and give him time to get into harness and the subscriptions collected before deciding what steps should be taken to induce more members to attend the meetings and utilize the columns of the Journal.

It was then proposed by Mr. Phipps seconded by the President and carried unanimously, that Mr. Dunsterville be elected the Honorary Secretary and Treasurer, and that he be also appointed Editor of the Society's Journal beginning with the number for September instant.

The meeting then terminated.

EXTRACTS.

One does not often see extracts from "Punch" in a photographic paper, but the following taken from the number for 23rd August 1899 is too good to miss :—

"SOLILOQUIES."

(*Recorded by Mr. Punch's Phonograph.*)

I.—In a Dark-room.

There, everything's ready, I think—developer, "hypo.," water—so out goes the light. Perfectly simple to develope one's own films; far better and cheaper than sending them to Westman's. . . . Night-light in my red lamp seems a bit feeble—hope to goodness it won't go out. Now I must unroll the film. . . . Hang the stuff, how beastly curly it is. . . . Wonder if I'm cutting it at the right place? Must chance it. Now then, where's that book of directions? . . . Bless me if I haven't left it downstairs, and, of course, if I open the door now all the film will be ruined! . . . However, I daresay I can remember most of it. . . . Let's see, was it two parts of "developer A" and two parts of "B," or two of "A" and one of "B"? . . . Something's coming already, black spots are appearing on the film. . . . I believe that's Kate, or is it a view of the church? . . . Hullo, there's some one—what? eh? *What the dickens am I doing in your dressing-room?* Developing photographs, and I chose it because it has shutters. . . . No, you can't come in. *Time to dress, as you're dining out?* Well, you should have thought of that before. . . . Don't do that, you idiot, you'll burst the door open. . . . *Just what you mean to do?* Oh, nonsense, you'll spoil all my photos—ruin them! . . . Yes, I'll be as quick as possible. . . . Eh? Yes, they're coming out splendidly, *splendidly*. *Do* go away, please; . . . Confound that fellow Jack, probably he's made me spoil the lot. . . . Wonder how long ago I put this lot in the fixing-bath before he came and made that row? . . . But surely I ought to have fixed them first thing? Wish I had that book here. Well, I'll try fixing these before I develope them. . . . Daresay either way will be equally good. . . . Hullo, here's another bottle, labelled "Bromide of Potassium." . . . Wonder when *that* ought to be used? . . . Let's see, it's a sedative, isn't it? Doctors prescribe it for "nerves," so I'll put it in the fixing-bath. . . . Wish this red lamp would give more light. . . . I do believe it's going out! It *is*!! . . . And here I am in pitch darkness, with some of the films fixing and some developing, and—— There goes the developer over Jack's hair-brushes! Where are those beastly matches? . . . Thank goodness, I've got a candle lighted at last. . . . I declare, all the film is coal-black, and not a sign of a picture on any of it! And I promised Kate half-a-dozen copies of her portrait! . . . Almost makes me inclined to chuck photography altogether. Anyhow, if I "press the button" in future, I'll be jolly careful that some one else "does the rest!"

Retouching.

By Redmond Barrett.

(*Continued from page 107*).

but here again there is not sufficient thought exercised. How often do we see a sky that does not approximate to the effect of the water in the foreground, or that does not coincide with the lighting of the landscape. But there are frequently points in a landscape where a deepened shadow would add a value, or where the infusion of transparency would materially benefit the picture. This sort of work cannot be so well done by the pencil as by a stump or a brush, for the touch of a pencil is antagonistic to somewhat broad effects, and it must therefore be accomplished by washes of colour, or by preparing the back and using the stump where required. The same remarks apply generally to architectural work, where the deepening of a shadow often relieves the rest of the picture and more perfectly renders the idea of distance. I do not think that the insertion of a line of a beam in a roof, for instance, would catch the eye more than would be the case if the actual beam had been photographed, providing the work was properly done; and I think it would be justifiable to give the effect of a ray of sunlight coming through a window, or any other natural effect, that could have been secured in the negative by patient waiting or under certain conditions. In architectural work, as in landscape, breadth of light and shade is the object in view, and therefore a wash of colour is more satisfactory than the pencil, which is better adapted to the rendering of minute detail.

Mr. Snowden Ward, referring to the value of retouching on architectural subjects, said he believed it was an open secret that some of the wonderfully fine interiors shown at recent exhibitions of the Society were from negatives which were first covered with papier mineral, which was then cut away from the places where it was necessary to emphasise the shadows and coloured with a crayon and stump where it was desired to lighten any portion.

Mr. Barrett: I do not see that there is any illegitimacy in working on the back of a negative in order to secure effects which the operator would probably have obtained by means of the camera if it had been possible, but it would be a distinct advantage if some authoritative pronouncement were made upon this and kindred subjects. A negative often contains a great deal of distinct but unprintable detail, and one is in my opinion quite justified in adopting any means for the purpose of bringing it out properly in the print. When one comes to the question of adding some feature which was not present in the original, one is on more debateable ground; but even if it be a sin it is a very small sin, if by it an artistic and beautiful result is obtained.—*The Photographic Journal.*

What not to do in Plain Silver Printing.

(Journal of the Photographic Society of Philadelphia).

In the older descriptions of the plain silver process the point most emphasised was to "keep the image on the surface," for, it was said, if the image be allowed to sink into the fibre of the paper, dulness and flatness will result. This idea was partly due to a misconception, and partly to a different standard of work in those days. It is true that if a sheet of ordinary photographic paper be salted by long floating or immersion in such a manner that the salt penetrates well into the fibre, and then be sensitised by the usual short floating, the prints will likely be flat and "sunk-in" looking. But is this due to the fact that the image is not confined to the surface? No; it is because there is so much salt present that there is not sufficient excess of free silver nitrate to properly sensitise the silver chloride: for it is a well-known fact that, while silver chloride alone readily darkens to a certain tone, it does not reach the full depth except in the presence of silver nitrate. If this paper be soaked in the silver bath until an excess of the latter salt obtains throughout the entire thickness, it will then be found to print properly, and without any sunk-in appearance, though here, certainly, there can be no question of the surface image. So far from a thin, superficial image, tending to brilliant blacks, the reverse is the case, since the thicker the sensitive film the thicker will also be the resulting deposit and the more thoroughly will it obscure the white colour of the underlying paper. A mealy black is simply one in which the deposit is so thin or imperfect that the paper can be seen through it.

But, as has been said, another factor made itself felt in the precept to keep the image on the surface; by so doing greater sharpness could be obtained in the detail. This is true, for it is evident that, as the action of the light penetrates into the paper, the distance between the negative and that stratum of the paper where the printing is going on is constantly increasing, and therefore the image must become less sharp, just as it would were we gradually to withdraw the negative. In the old days this was a consideration of importance, for, if the negative and print were not microscopically sharp all over, the work was a failure. But with the advent of the platinotype all this was changed, and we have come to recognise that the merits of a picture are not gauged by the amount of incisive detail which can be made out per square inch of surface.

Such appears to have been the origin of the mistake, and it has been diligently spread and perpetuated. One of the most prominent professional photographers in this city told me a few days ago that he would like to make plain silver prints, but, after trying a number of different papers, had been obliged to give up the idea, because he could find none which would keep the image sufficiently on the surface to give the proper brilliancy, and asked me what I thought of resizing the paper with glue. I do not say that it is impossible to get good, rich blacks from a superficial image, for, with carefully prepared paper, a suitable negative, and, not least important, a suitable light, it undoubtedly is sometimes possible to get fine results. We have all seen such. But the difficulty of making a really first-class print is so great, compared with the ease by which any number with purplish-gray tones or mealy shadows may be turned out, that one rarely sees silver prints exhibited. But once use a rough-surfaced, slightly bibulous paper, get the print well into the fibre, and the difficulties disappear. Any hard-textured, firmly compressed paper is to be rejected. Ordinary photographic paper is not very satisfactory. The best which I have ever found was the old cold-pressed Whatman drawing paper, made ten or fifteen years ago. So far as I know, however, this cannot be obtained. The present Whatman "N" is very soft, and gives beautiful results, but lacks the strength and coherence necessary to withstand the long immersion in the different solutions and wash waters incident to silver printing. If one tries to use it without sizing, about half the prints are lost before they have been sufficiently washed, and sometimes soften to such an extent that in lifting from one dish to another the piece taken hold of tears off before the print has been raised from the liquid. This difficulty can be remedied by sizing, though only with some loss of the soft effect. However, if the sizing be kept at the lowest limit, the difference is not very noticeable, and we obtain a paper which is capable of readily yielding beautiful prints. The examples which are in your hands this evening were made on this paper, according to the following formulæ:—

Whatman "N" paper is soaked for about eight minutes in—

Gelatine	2½	drachms.
Sodium chloride	2¼	„
Water	30	ounces.
Chrome alum (ten-grain solution)..	1	ounce.

Care must be taken to watch for air bubbles, so that they can be promptly removed, and the paper is best turned over once or twice in the bath. It is very desirable to use chemically pure sodium chloride, as, if the ordinary domestic article be employed, the salted paper will not keep, owing to the presence of magnesium chloride, which is found in table salt. On account of the hygroscopic qualities of the magnesium salt, the paper is always damp, and decomposition is likely to result.

After the paper is dry, and shortly before printing, sensitise by brushing freely with following solution:—

Citric acid	120	grains.
Nitrate silver	70	„
Water (distilled)	1	ounce.

As soon as the paper has once more become dry it is ready to print, no fuming being necessary. The printing is carried rather farther than for albumen, and thin negatives are much better exposed under green glass. As it is difficult to get such glass free from blebs and other imperfections, the following plan, suggested to me by Mr. Ives, may be used instead: Fix an unexposed gelatine plate, wash and soak in a strong solution of naphthol green. This stains the gelatine film, and when dry it answers every purpose of green glass. After printing, wash throughly until all the free silver nitrate is removed and tone in any suitable gold bath. The present prints were toned with the common bicarbonate bath, used a little weaker than usual, or about 1 grain gold chloride to 16 ounces of water. In a strong bath the prints tone so rapidly that it is difficult to stop at just the proper point. If a pure, neutral black be desired, the toning is carried a little farther than for albumen. The treatment after toning is the same as for albumen.

The only objection which can be made to the use of absorbent paper is that more silver is needed to sensitise and more gold to tone. Thus, a little less than two ounces of the sensitising solution are required for one dozen $6\frac{1}{2} \times 8\frac{1}{2}$ prints, and about three grains of gold

chloride. The cost of the above quantities will be about thirty cents, while the paper itself cost 13 cents more. If we allow 5 cents more for the salting bath, hypo, and incidentals, we get a total of 48 cents per dozen. This estimate is based on retail prices, and by judicious buying can be considerably reduced. As here given, it will be found about one-third less than bromide or aristotype, and less than half as much as platinum. So that, even in the expensive form advocated, silver printing is still the cheapest process by which first-class results can be obtained. In practice the advantage in cost is still greater, because with silver almost every piece of paper exposed results in a good print, which, except in the most skilful hands, cannot be said of most processes. As to the results to be obtained, I prefer to let them speak for themselves. No. 1 is from a flat, weak negative, that will scarcely give a platinum print. No. 2 is from a good negative, full of rich half-tone, but with almost clear glass under the bridge. No. 3 is a well-known view chiefly composed of black and white. It and the shadow in the preceding show what can be done with blacks, and the three taken together cover about the entire range of practically useful black tone values. No. 4 is a print from a rather hard negative on Whatman's "N" paper without any sizing, but the same quantity of salting. Of course, I do not claim any originality in regard to the idea of using drawing paper to make prints on, but if the direct stand which is here taken, in opposition to the idea of keeping the image on the surface, shall have some effect in doing away with this popular, but, as I believe, hurtful, delusion, I shall feel that this paper has served a useful purpose.—

Dr. Caspar W. Miller.

(*The British Journal of Photography.*)

Photographic Lens-Making.

The following brief account of the stages in the manufacture of photographic lenses, as carried on in the optical factory of C. P. Goerz, can scarcely fail to be interesting to the photographer, professional or amateur. The factory is the largest of its kind in the world, and a few words may fitly be given to its history.

The business was founded in the year 1888, only three workmen being employed, but by 1892 the number had increased to 70. In 1893 a rapid advance was made when the Double Anastigmatic objective, calculated by Herr von Hoegh, the scientific colleague of the firm, was placed upon the market. The business increased so largely that an entirely new factory had to be erected, and in 1896 the men employed numbered 350.

It soon became apparent that to meet the ever increasing demand a larger factory was necessary, and a huge building was commenced. Though only completed in 1898, and though accommodating 700 men, it is at the present time much too small, and a large extension has been decided upon.

In connection with the chief warehouse in Berlin, branch offices have been established in New York and Paris, to deal with the business of these places, and just lately a branch has been opened in London at 4 and 5 Holborn Circus.

The purpose of this small article is to supply photographers with an exact if popular description in word and picture of the various processes.

Before commencing the working, each block of glass as it comes from the glass works must have its physical properties examined. As everyone knows, a ray of light passing obliquely into glass is bent from its previous path. This is called the refraction of light. It is well-known, too, that ordinary light—white light—is not a simple color but is composed of a number of different colors.

The breaking up of white light into its component colors—the rainbow colors—is visible to the eye when sunlight passes through a triangular glass block; that is a prism. Further, the refraction of the different colors varies in different glasses, and it is therefore necessary to make a small sample prism from the rough glass block, and examine it in this respect. On the exact determination of the refractive power of the material depends largely the value of the objective.

A skilled mathematician then calculates the exact curves of the lens surfaces. The Goerz "Double Anastigmat" consists in each of its front and back halves of three pieces made of different sorts of glass. Suppose now that of the first delivery of the three glasses from the glass works one of the three has, by some means, run short, it becomes necessary, in replacing this, to make fresh calculations of the curves, not only of the new lens but of the other two, because the optical qualities of two different makings of glass are never precisely the same. In a large factory this is continually happening, so that, considering the various sizes of Double Anastigmatic objectives manufactured the work requiring recalculation, and the work of calculating new lenses necessitates a large staff of calculators.

When one considers that all these calculators must be scientifically educated men one can understand that considerable expenditure must be made before ever a trace of the objective itself appears.

If then, the lens has been designed in this theoretical way the actual manufacture can be proceeded with.

We shall now describe the numerous processes as carried out in the Goerz factory, and step by step trace the manufacture of a photographic objective from the raw block of glass. The work commences in a large workshop on the third storey, where the raw glass blocks are first roughly shaped. The glass must be of the best quality, as transparent as possible, and free from flaws and stresses. After this the blocks are cut by means of zinc discs fed with diamond dust into pieces of the required dimensions, and the edges are also roughly rounded with glass shears, so reducing the blocks to flat cylinders somewhat greater in diameter and higher than the future lens. After the preliminary shaping the grinding commences. The cylinder is reduced to the proper thickness upon rotating flat cast iron discs fed with wet sand and the rim ground upon a suitably curved grinder.

Then begins the rough grinding of the flat faces to the proper curves. The worker presses the glass firmly with both hands upon a quickly rotating cup-shaped grinder kept well supplied with wet sand, and, by properly distributing the pressure, takes care to grind all parts uniformly.

The grinders are made concave or convex according to the form of lens required. A special lathe with a radial support is used in making these grinders, and since upon their trueness depends the exactness of the lenses ground, the greatest care must be exercised. During the operation they are frequently examined, and are finally carefully tested with special instruments. While in use, too, they are often

examined, and when worn unevenly are at once withdrawn and corrected upon the special lathe. A skilful worker can, by properly distributing the pressure, keep his tool always exact until it becomes evenly worn out. Such a worker can on one tool grind from 100 to 120 lenses of medium size and hardness.

During the rough grinding the curves and dimensions of the lens are frequently examined with gauges and callipers, and the process continued until these are correct. The gauges are brass plates cut to curves exactly opposite to those of the lens required; for a convex lens the gauge will be concave, and *vice versâ*. In testing the lens curves, which with such a simple gauge can only be approximately done, the gauge is placed perpendicularly on the lens surface, and the worker observes whether it sits everywhere uniformly.

The callipers consist of two pointed rods lying in line, One of these rods may be slid towards or from the other. and the displacement, measured upon an attached scale. When the thickest part of the lens to be measured is brought between the points, and the sliding rod moved until the points just touch the glass, the thickness may be read off the scale with the aid of a vernier to $\frac{1}{20}$ mm.

As soon as the lens curves and diameter are approximately correct, the fine grinding and polishing process commences.

The rough grinding leaves the lens surface coarse and untransparent, and only after the second process does it become smooth and clear.

The second process is performed as before upon curved grinders, but the lathes are driven by foot, since the skilled worker can produce such work more exactly in that way than by machinery.

It is difficult for the uninitiated to form any idea of the great accuracy required in the work of fine grinding. No known mechanical instrument is capable of making the measurements, and recourse must be had to a physical method; to Newton's color rings where advantage is taken of the known wave lengths of light, some of which are but $\frac{1}{10000}$ mm. More on this subject will be said later.

To enable the worker to press the lens uniformly on the rotating grinder a handle is cemented with a special sealing wax composition to the back of the lens. With lenses of small diameter and curvature, three, four or more are cemented upon the same handle, and ground simultaneously, thus saving considerable time. To ensure each lens being ground or polished uniformly they are so arranged that all their upper surfaces lie in the same spherical surface.

While in the first process common sand is necessary, in the fine grinding only fine clean levigated emery can be used. It is fed into the grinding tool, mixed with water to a fine pasty condition. Five grades of emery, each finer than the previous are used. The last and finest grade which is levigated for 60 minutes, and is, therefore, very fine grained is used to bring the lens surface to the final mathematically exact curve.

In the various stages of the fine grinding the lens is frequently and carefully tested with the test glasses, which are blocks of glass ground out to curves exactly opposite to those of the required lens. The Superintendent further measures the curvature directly with the spherometer.

By pressing the lens and test glass into close contact, after first carefully cleaning the surfaces, any uniformity of the curves may be observed from the color, position and irregularity of the above-mentioned Newton rings. If only one uniform color is observable the surfaces correspond everywhere, but this happens rarely and for but a moment since the smallest temperature differences distort the glass sufficiently to show the rings. A variation of $\frac{1}{10000}$ mm. (in practice quite negligable) is in this way at once detectable and Goerz's "Double Anastigmats" are worked as nearly as possible to this degree of accuracy.

When at length the lens has its proper form it is polished with rouge upon the previous fine grinding tool, or upon large automatic machines until it becomes perfectly transparent.—*The Photogram.*

(*To be continued*).

Supplementary Chapter on Photographic Optics.

By T. Perkins.

The modern flat field lenses corrected for astigmatism, which are sold under various names, anastigmats, double anastigmats, platystigmats, collineras, stigmatics, etc., possess several very valuable properties, which render them the most useful lenses for any worker who does not see his way to lay in an extensive stock. I find that I can do a great part of all my half and quarter-plate work with my two Wray platystigmats. They have flat fields, so that for all subjects save those in which the objects are arranged concavely to the camera, they have an advantage over the older forms; the correction for spherical aberration and astigmatism allows the largest stop to be used, no stopping down being necessary save for the purpose of increasing depth of definition and bringing different planes into focus simultaneously. Hence they are well suited for rapid work; as the component are set very close together these lenses embrace a wide angle, and therefore have all the good qualities of the wide-angle rectilinears, whether it is desired to use them to include a wide-angle or not; the fact that objects in the same plane are well defined while those in other planes are more or less softened according to their distance and the aperture used may be taken advantage of in many ways. The photographer who aims at pictorial representation of his subjects generally prefers to have his principal object sharper than subordinate parts of his picture. At the same time he does not as a rule place his principal object in the centre of his picture. With the rapid rectilinear lenses, owing to their small area of good definition with large stops, if the principal object was much out of the centre of the plate, the lens had to be stopped down to get this object in focus, this stopping down increased the depth of definition, and so prevented the differentiation of planes that can only be obtained with large stops. Moreover, the curvature of the field of the older lenses often brought objects into undue prominence. This is entirely avoided when the modern lenses are used. No matter where on the plate the principal object falls, it can be focussed sharply with the largest stop, as probably no other prominent object will be situated on that plane, every other part of the picture can be well subordinated to this. There is no chance of a foreground blade of grass or shrub distracting attention from the chief group of trees, or the figure on which the photographer wishes the gaze

of the spectator to dwell; hence this lens is well suited for artistic landscape work. For portraiture it is no less useful; with the large aperture so desirable for this kind of work the head can be made sharp, and the margins of the picture will not be unduly blurred, as it is when some of the older forms of lenses which had but a small area of sharpness were used. If uniform diffusion is desired, and absolute sharpness in the face is to be avoided, this effect can be easily obtained by racking the lens slightly *outward* beyond the position for best definition. For copying from flat surfaces, whether these be prints or negatives, or details of wall carving, this lens is well adapted on account of its flat field. Its perfect rectilinearity makes it useful for architectural photography.

Most doublets may be made available as single lenses by using only one combination, the other being removed. The lens used is generally placed at the back end of the tube, that is, behind the stops, in some cases the focal lengths of the two components differ, that in front of the stops being generally the longer of the two. In these cases the doublet combines in itself three lenses of different focus. Of course, since the absolute diameter of the stops remains the same, the relative intensity value will vary according to the focal length of the component used. It is well then to measure accurately the diameter of the largest stop, and then to measure the focal length of each component which it is intended to use separately and so obtain the usual intensity ratio, so that the time of exposure required with each half of the doublet can be compared with that needed when the doublet is used in its normal condition. If for instance, as might be the case, a 6-in. doublet were composed of two singles of about 11 inches and 13 inches focus respectively, then the $f/8$ stop would measure $\frac{3}{4}$ inch, and the 11 inches component would with this work at $f/15$, and the 13 inches component at $f/17$ approximately, so that the requisite exposures would be in the proportion of 64 : 225 : 289, or roughly as 1 : $3\frac{1}{2}$: $4\frac{1}{2}$

I have now spoken of most of the lenses in common use, but a few words may be said about the single uncorrected lens. This over a limited angle will give nice soft definition if, after focussing, the camera back, or the lens in its tube, is shifted sufficiently to allow for the difference of the visual and chemical focus, but, save on the ground of its cheapness, I do not consider that for any purpose it possesses any advantages over the lenses mentioned above, while its serious drawbacks—curvature of field, curvilinear distortion, etc.—render it inferior to them in general use.

Pictures may, however, be taken without any lens whatever by means of a small aperture, generally known as a pinhole. Pictures thus produced, though far from being bitingly sharp, still show much better definition than would be imagined. There are various advantages that this method of working has. No focussing is needed, but if more of the subject is required on the plate, the pinhole can be racked in; if less, it can be racked out. Any angle can be included, provided it is less than 180°. Moreover, none of those hard white discs are seen which are often produced when light shines through the interstices of foliage if a lens is used. But, despite these advantages, the fact that differential focussing is impossible, and still more, the enormous exposure required even for well-lighted subjects, renders the use of a pinhole more of a curiosity than an everyday occurrence, and most of us are only too glad to avail ourselves of the almost perfect instruments opticians put at our disposal.

I shall endeavour to give some selections of lenses that may be useful, but it is by no means easy when once any plates save the smallest size in general use, namely, the quarter-plate, are employed. For the man with even a whole-plate camera does not always confine himself to this size, but often uses smaller plates, so he will want lenses for quarter and half-plate also. The comparatively small number of photographers who have cameras of still larger sizes, 10 × 8, 12 × 10, 15 × 12, will certainly often expose smaller plates, and so will require shorter focussed lenses than those with which their larger work is done.

It is useless to attempt photography seriously without at least two lenses. For a quarter plate, a doublet of 3 inches and one of $4\frac{1}{2}$ inches, both preferably of one of the modern types, such as my two platystigmats, would be most useful. The smaller one would be useful for wide-angle work, and for the production of negatives from which lantern slides could be printed by contact, the other for more general work. By dividing the doublets, as described, singles of about 6 in. and 9 in. focus respectively could be obtained, and almost all subjects treated. When a half-plate camera is added to the outfit then a doublet of about 7 inches would be required in addition, and if the size of plate were increased to $8\frac{1}{2} \times 6\frac{1}{2}$, then another of 10 inches focus might well be added. If the anastigmatic doublets are too expensive, then the set might be selected from the wide-angle rectilinear series, these lenses, as before described, as made by several firms of opticians, have interchangeable cells, so that a variety of combinations can be made. These wide-angle rectilinears should be capable of working at $f/11$. This series, however, only provides somewhat slow working lenses for long-focus work, so that when once the photographer has arrived at the largest size he is likely to work, he should provide himself with a single lens, the focal length of which is rather more than half as long again as the longer side of the largest plate he will use. This limit will probably soon be fixed, if not by the cost, at any rate by one's own carrying powers. Personally, I shall never go beyond 12 × 10 plates, hence my longest-focus lens is a single landscape of 18 inches.

Most photographers begin with a quarter-plate camera The most economical way of proceeding will be to buy a doublet of $4\frac{1}{2}$ in. focus first, then when a half-plate camera. is purchased, and beyond this size many workers will never go, the 7 in. doublet will be added, then the $4\frac{1}{2}$ will do for a medium angle when quarter-plates are used in either in in carriers or quarter-plate backs, which can be used on the half-plate camera if an adapter is used on it back, and as wide-angle lens when half plates are used. The 7 in. will do for a narrow-angle lens on quarter-plates, and as a medium angle on half-plates. The 3 in. doublet recommended above, though convenient, can be dispensed with, if we can arrange always to take all these subjects that require a wide angle on half plates.

These sets are intended to enable the photographer to do any work.

If he wishes to do landscape only, then two single lenses, one rather longer in focus than the longer side of the plate, one whose focal length is about half as much again, will suffice; each, however, should open out to $f/11$.

For portraiture alone, one single lens which is capable of being opened out to $f/8$, and is of a focus about twice that of the length of the plate used, will be all that is required; a 12 in. narrow-angle lens, for instance, will be sufficient for any size up to a cabinet portrait.—*The Practical Photographer.*

COMPETITIONS.

(Open only to Members of the Society.)

31st January 1900—Half Yearly ... **Architecture.**

RULES.

1. *Two Special Competitions shall be held, in each year, in addition to a monthly competition.*

2. *The Committee shall select the subjects for the Special Competitions, and notice of the selected subjects shall be announced in the Society's Journal in February and in July of each year. The subject for each monthly competition shall be selected two months in advance by the members present at the monthly meeting, and shall be notified in the next issue of the Society's Journal.*

3. *Pictures, &c., competing for Prizes at the Special Competitions must reach the Secretary by the last day of January and of May, and those competing at the monthly competitions must arrive in time to be shown at the monthly meeting.*

4. *Prizes will consist of Silver and of Bronze Medals, and of Certificates of Merit.*

5. *Not more than one Silver and one Bronze Medal shall be given at each Special Competition, and one Silver and one Bronze Medal may also be given at these competitions for excellence in copying, enlarging, lantern slides, or any other special branch of photography. One Silver and one Bronze Medal shall be awarded half-yearly to the exhibitors who obtain the highest and the next highest marks respectively at the monthly competitions. The number of Certificates of Merit granted at each competition is left to the discretion of the Judges.*

6. *A member may receive only one Silver and one Bronze Medal in the special, and one Silver and one Bronze Medal in the monthly, competitions, held during the same year; but should a member who has been adjudged a medal be disqualified under this rule from receiving it, he shall be given a Special Certificate instead, marked 1st or 2nd Prize.*

7. *A Special Committee of three members shall be appointed Judges by the General Committee to carry out, subject to these Rules, all arrangements connected with the competitions.*

8. *The Special Committee shall be appointed after the Annual General Meeting in January, and shall hold office for one year, and any vacancy occurring will be filled up by the General Committee.*

9. *The Special Committee shall decide upon the merits of the pictures, &c., sent in for competition, and their decision shall be final. The system of judging the monthly exhibits shall be by awarding marks, a record of which shall be kept by the Judges, the marks being totalled and the results declared half-yearly. For this purpose, only the three highest marks awarded at each competition to each competitor shall be recorded, but not the aggregate marks gained by each for a number of exhibits.*

10. *If any member of the Special Committee is a competitor, the General Committee shall appoint a non-competing member to act as Judge at that competition instead of the competing member.*

11. *No exhibit shall compete twice, but pictures, &c., already exhibited elsewhere, may be sent in for the competitions.*

12. *Lantern slides sent in for competition shall be in sets of six, and shall be judged upon the screen.*

13. *The Special Committee shall not award any Prizes or Certificates, unless they consider the exhibits to be worthy of such distinction.*

14. *Each competing exhibit shall be the entire work of the exhibitor, and when sent in shall be accompanied by a Certificate in the annexed form:—*

> *"The (1) Arranging, (2) Exposing, (3) Developing, (4) Retouching (if any), (5) Printing and (6) Trimming and Mounting were done by me without assistance."*
>
> ________________________
>
> *Member, A. P. Socy. of Madras.*

15. *All pictures for the Special Competitions shall be mounted, and may, at the competitor's option, be framed but not glazed. Those for the monthly competitions need not be mounted, but should be trimmed.*

16. *Each competing picture should have a name or title, which should indicate the nature of the subject.*

17. *No competitor shall be allowed to send in more than six pictures to compete for any particular Prize, but the same member may compete in all branches specified in Rule 5.*

18. *The pictures gaining 1st and 2nd Prizes at the half-yearly competitions, and the best pictures sent for the monthly competitions, shall, when practicable, be reproduced in the Society's Journal.*

19. *To give up-country members an opportunity of seeing the competing pictures at the special competitions, the pictures shall be circulated to all members of the Society, not residing in Madras, who apply to see them. As this arrangement can only be carried out by the cordial co-operation of the members themselves, they are expected to forward the pictures without delay to the next member, and to send one of the accompanying post-cards to the Secretary, so that by this means the progress of the pictures may be traced.*

List of Members whose Dark Rooms are available for use by Members of the Madras Amateur Photographic Society.

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Members of the Madras Amateur Photographic Society are permitted to use this column free of charge for two insertions of each advertisement—all subsequent insertions of the same being chargeable at 2 annas a line. When an advertisement becomes liable to this charge, it will not be inserted unless a postal order or stamps to the value of the charge are previously sent, addressed to Graves, Cookson and Co., Scottish Press, Mount Road Branch, Madras. Advertisements received up to the 5th of each month will be inserted in the next issue of the Journal; those received after this date will be held over for the subsequent issue.

Subscribers, and others who are not regular dealers may make use of this column for advertisements by paying at the rate of 3 annas a line.

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N.B.—The Journal is issued on the 15th of each month, and is posted free to members of the Madras Amateur Photographic Society.

Entrance Fee, Rs. 5.—Annual Subscription *for Resident Members, Rs. 15; for Up-country Members, Rs. 12. Members joining after 30th June pay Half-year's Subscription.*

Candidates for Election—*should be proposed by one member and seconded by another; and they will be ballotted for at the following meeting.*

Ordinary Meetings—*of the Society are held on the first Friday of each month at 6 p.m. and members are at liberty to introduce visitors: meetings take place at the Museum, Egmore.*

Letters to the Editor—*should be addressed care of Messrs. Graves, Cookson & Co., Scottish Press, Mount Road Branch, Madras.*

Letters to the Honorary Secretary and Treasurer—*should be addressed to F. Dunsterville, Esq., Masonic Hall, Mount Road, Madras.*

Communications regarding the issue of the Journal—*should be addressed to the Publishers, as above.*